Sequence III Surveillance Panel Meeting

Teams

Thursday May 30, 2024 11:00 – 12:30 EDT

<u>Agenda</u>

1.0) <u>Attendance</u> See attached

2.0) <u>Chairman Comments</u> None

3.0) Approval of minutes

3.1) Minutes from 2/8/2024 Meeting Approved

4.0) IIIH Action Items

4.1) Fuel Update - Haltermann

There is about 27,000 gallons of fuel available and it will take about 20-days to build a new batch. Labs are to contact Haltermann about fuel needs and the remaining fuel will be allocated.

4.2) Analysis of Batch Code 8 Piston Results – Grundza & Stats Group

Rich gave the statisticians report. There are 5 reported results on BC8 pistons. For all parameters: PVis, WPD, PSV & phos retention the results have two on one side and 3 results on the other side of target. In other words, a consistent distribution of mild and severe results. Once more data is received after the labs reference additional stands the stats group will be asked to evaluate the data to determine if there is a need for an ICF. TMC will coordinate and recommend when there is a need for the next meeting.

4.3) Introduction of BC8 pistons – Panel
Introduce BC8 Pistons with an acceptable calibration test which meets level 2 ei limits.
By stand (stand based LTMS),
Motion – Jason
Second - Andrew
The motion passed with 16 approve, 1 waive and no opposed.

TMC will adjust stand calibration intervals as needed to facilitate the consumption of BC5 pistons and the smooth transition to BC8 pistons.

This was followed by a discussion of how meaningful reference oil 438 is with the higher GF-7 limits.

Oil	WPD Target	PVis Target
434	4.2	-2~112%, -3~200%
436	4.6	28%
438	3.6	~80%

There is value in having 3 reference oils, but the group decided that for the implementation of BC8 pistons data on oils 434 & 436 was most meaningful.

Suspend the use of 438 for first BC8 calibration on a stand. Motion Rich 2^{nd} Bob The motion passed with 15 approve, 2 waive and no opposed

Tim Cushing recommended that the surveillance panel investigate implementing a new LSPI capable reference oil. This will be added to a future agenda.

It was discussed that TMC will assign the same reference oil as previously assigned on stands calibrating with BC8 pistons when possible (some previous references were likely run on 438). Bob pointed out that if oils are not running on target it can affect SA results.

4.4) Other Topics No other business

5.0) Old Business

5.1) TBD

6.0) <u>New Business</u>

6.1) TBD

7.0) <u>Review / Update Scope and Objectives</u>

- 8.0) <u>Next Meeting</u> TBD
- 9.0) <u>Meeting Adjourned</u> Adjourned at 11:05 CDT

IIIH - Batch Code 8 Piston Data Review

Statistics Group May 28, 2024

Statistics Group

- Todd Dvorak, Infineum
- Jo Martinez, Chevron Oronite
- Martin Chadwick, Intertek
- Travis Kostan, SwRI
- Richard Grundza, TMC
- Phil Scinto, Lubrizol
- Amanda Stone, Afton/New Market
- Ricardo Affinito, Chevron Oronite
- Amy Ross, Valvoline

Executive Summary

- The pistons appear to be acceptable for calibration purposes.
- Additional data will be needed to determine appropriateness of correction factors.
- Introduce pistons in stands by using level 2 Ei limits for all parameters, with stands successfully calibrating on BC8 pistons before BC8 pistons can be used for candidate testing. Any stand not meeting level 2 Ei limits will be required to conduct another calibration test on the BC8 pistons and meet calibration criteria.
- If a stand has reference attempt on BC8 pistons, and decides to reference on BC5 pistons before switching to BC8 pistons, the previous BC8 piston test will not be included in the charts and a new reference on BC8 pistons will be required when switch to BC8 pistons.
- Have the TMC adjust reference periods as needed to facilitate introduction (no net gain or loss in calibration periods)
- Should RO 438 continue to be used for calibration purposes?

Batch 8 Data Review

IIIH Batch Code 8 Pistons Data IIIH Parameter Results

Testkey	Lab	Apparatus	Ind	PVIS	PVISyi	PVISzi	PVISei	WPD	WPDyi	WPDzi	WPDei	APV	APVyi	APVzi
185673-IIIH	В	B 4	434-3	142	-1.3762	-1.2162	-0.2286	4.17	0.0238	-0.1233	0.2102	9.52	1.2	1.0754
186127-IIIH	G	G 6	436	23.2	-0.4613	-0.7728	0.445	4.32	-0.9118	-0.3007	-0.8729	9.81	0.8065	1.0698
185476-IIIH	D	D 3	438-2	27	-1.373	-1.034	-0.494	3.76	-0.423	-0.207	-0.309	9.19	-0.692	0.645
184597-IIIH	А	A 1	436	31.6	0.31	-0.71	1.458	4.91	0.824	0.205	0.884	9.71	0.403	1.214
186127-IIIH	G	G 2	434-3	497.9	0.777	-0.425	1.707	3.4	-1.81	-0.787	-1.461	8.86	-1	0.46

IIIH Batch Code 8 Pistons Data IIIHA and B Parameter Results

Testkey	Lab	Apparatus	Ind	Phos	PhosYi	PhosZi	PhosEi]	MRV	MRVyi I	MRVzi I	MRVEi
185673-IIIH	В	B 4	434-3	78.60	6 -0.8165	0.2739	-1.5576	nm	-1.3762	-1.1005	-0.3938
186127-IIIH	G	G 6	436	96.27	7 1.0495	0.8645	0.2642	14200	-0.7835	-0.7925	0.0129
185476-IIIH	D	D 3	438-2	80.97	7 1.331	0.971	0.515	10000	-0.935	-0.771	-0.234
184597-IIIH	А	A 1	436	92.82	2 -0.658	0.36	-1.455	19700	0.36	-0.579	1.341
186127-IIIH	G	G 2	434-3	82.02	2 1.3101	0.6878	0.7779	nm	0.777	-0.129	1.285

Means and Standard Deviations of Yi and Ei for All IIIH Parameters

Means and Standard Deviations by Parameter



ASTM Sequence III Surveillance Panel	(19 Voting members)
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sent	ASTM Sequence III Surveillance Panel (19 Voting members) date: 5 - 30 - 20 2 4						
Le la	Name/Address	Phone/Fax/Email	Signature: Kithert Sockedell				
	Voting Members: Britanne Jorge Agudelo	jorge.agudelo@bp.com	Votes: Approve A				
V	Adrian Alfonso	adrian.alfonso@intertek.com	<u>A</u> <u>A</u>				
V	Jason Bowden	jhbowden@ohtech.com	<u>A</u> <u>A</u>				
V	Michael Deegan	mdeegan@ford.com	A A				
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V	Haiying Tang	haiying.tang@stellantis.com	<u>A</u> <u>A</u>				
		16 approve) Whoe	BUTTLE BCS leader SI man 428 In BCS leader SI intern 238 In 120000				
	rage 1 of 4		× 3 × 1/5/2023				

ASTM Sequence III Surveillance Panel (19 Voting members)

date:

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ASTM Sequence	111	Surveillance Panel	(19	Voting members)
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Other Attendees:

BRIANNE HOCHKEPPEL BP